(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 106 240**
A3

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **83109776.1**

(51) Int. Cl.⁴: **B 23 B 31/16**

(22) Date of filing: **29.09.83**

(30) Priority: **29.09.82 US 428046**

(43) Date of publication of application:
25.04.84 Bulletin 84/17

(88) Date of deferred publication of search report: **10.07.85**

(84) Designated Contracting States:
DE FR GB IT

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(54) Spindle powered adjustable chuck.

(57) A spindle powered adjustable chuck for forcefully gripping a workpiece capable of automatically adjusting gripping diameter comprising a support frame (10) having a plurality of radially oriented jaw receiving compartments, jaw means including a plurality of jaws (11) being displaceable within the jaw receiving compartments, and worm gear means (12) operatively associated with each jaw (11) for radially displacing the jaw means (11), clamping means (15) for simultaneously displacing the jaw means (11) to a clamping position for forcefully engaging the workpiece therebetween preparatory to rotating the chuck for operation, spindle means (35) for rotatively driving the support frame (10), adjusting means (24) for simultaneously changing the gripping diameter of the jaw means (11) including planetary gear train means including an internally splined sun gear (21) and a plurality of planetary gears (22), splined shaft means (23) for coupling the planetary gears (22) to the worm gear means (12), and two position splined key means (24) for operatively engaging and disengaging the planetary gear train means, including compression spring means (30) for biasing the splined key means (24) to a first position whereat the planetary gear train is fixed relative to the support frame (30), whereby rotation of the spindle (35) can rotate a workpiece clamped to the support frame (10), the splined key means (24) being displaceable from the first position to second position acting against the compression spring means (30), thereby rotationally fixing the sun gear (21) of the planetary gear train means whereby the support frame (10) is rotatively free of the sun gear (21), so that rotation of the support frame (10) rotatively drives the planetary gear train means, thereby adjusting the gripping diameter through the worm gear means (12).

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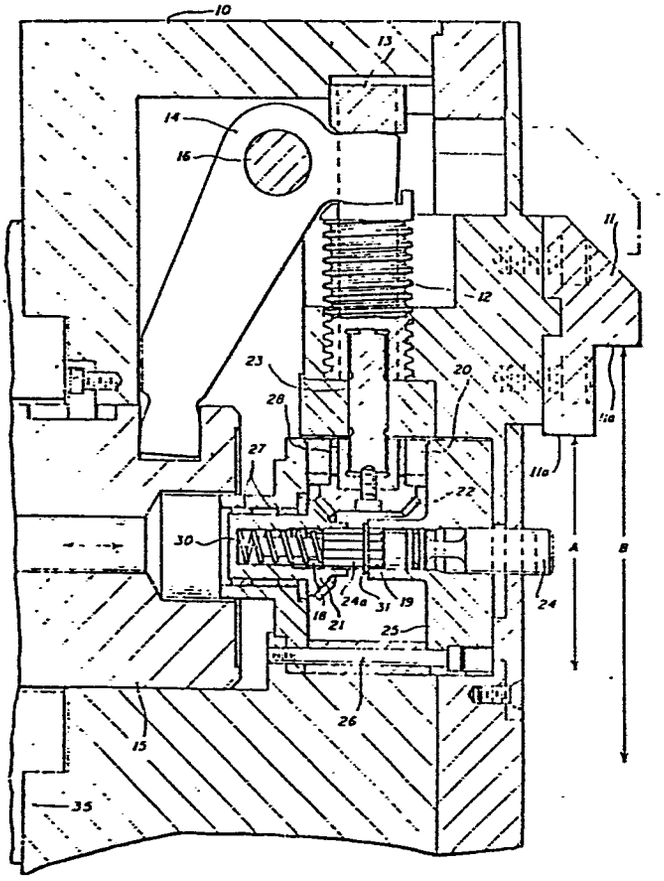

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EUROPEAN SEARCH REPORT

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Application number

EP 83 10 9776

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
A	US-A-2 917 314 (PONTING) * Claim 1; figure 1 *	1,2	B 23 B 31/16
A	DE-C- 533 183 (VEREINIGTE STAHLWERKE AG.) * Claims 1,2; page 1, lines 38-58; figures 3,4 *	1,2	
A	GB-A-1 150 589 (DOISTUA et al.) * Figure 1 *	1	
A	US-A-1 971 638 (BERG) * Page 1, left-hand column, lines 1-18; figure 1 *	1	
A	US-A-3 499 657 (GIRAUD et al.) * Column 1, lines 51-54; claim 1; figures 2,3 *	1	TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
A	US-A-3 909 020 (YAMANO)		B 23 B 31/00
A	US-A-3 936 060 (HIRAO)		

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	08-02-1985	MARTIN A E W

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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